

VIRGINIA ASSOCIATION OF MUNICIPAL WASTEWATER AGENCIES, INC.

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October 2, 2008

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By Email and U.S. Mail

Mr. Alan E. Pollock Department of Environmental Quality Commonwealth of Virginia P.O. Box 1105 Richmond, Virginia 23218

Arthur J. Butt, PhD Department of Environmental Quality Commonwealth of Virginia P.O. Box 1105 Richmond, Virginia 23218

Re: PCB Monitoring TAC

Dear Alan and Arthur:

On behalf of VAMWA, I want to take this opportunity to thank the Department and its management and staff for your efforts on the PCB Monitoring TAC. Although some of the matters the TAC has addressed have been difficult, I believe that the final result will benefit water quality in the Commonwealth. Our final technical and policy comments are attached.

I understand that much of the TAC's discussions have focused on the high costs of lowlevel PCB analyses and the quality of the resulting data. Given the investments that POTW owners and others are going to be asked to bear for effluent analyses, it is important that the Department follow through at the same time on its commitments to further the understanding of atmospheric deposition of PCBs. In the Lower Potomac TMDL example the data demonstrate that atmospheric deposition is a principal factor, although it is the poorest understood and poorest quantified factor. I also note the State Water Control Board's expressed interest last fall, when the Board considered the Lower Potomac TMDL, (1) in atmospheric deposition and (2) in not placing an undue burden on POTWs in light of their small (if any) contribution of PCBs to surface waters. Accordingly, I encourage and expect the Department to pursue the understanding and quantification of atmospheric deposition at least as aggressively as it pursues the collection of effluent data, and on the same time schedule.

As always, we appreciate the Department's efforts in support of water quality throughout the Commonwealth.

Sincerely,

Frank W. Harksen, Jr.

President

cc: VAMWA Members

Christopher D. Pomeroy, Esq.

VIRGINIA ASSOCIATION OF MUNICIPAL WASTEWATER AGENCIES COMMENTS ON DEQ'S DRAFT PCB MONITORING GUIDANCE

Final TAC Meeting (Sept. 18, 2008)

Oct. 2, 2008

The following comments address the final TAC meeting proceedings and minutes, and the current draft PCB Point Source Monitoring Guidance.

I. "Zero" Wasteload Allocations

We were concerned that both the prior Guidance draft and the Department's September 18 TAC presentation made reference to the inclusion in a TMDL of wasteload allocations of zero for some sources that took advantage of sampling waivers or that otherwise did not provide effluent data. Any such approach was unsupportable both technically and legally. We appreciate the note in the Department's minutes of September 30 that the reference to zero WLAs will be removed.

If the prior Virginia PCB TMDLs have revealed anything, it is that PCBs are ubiquitous in the environment. As such PCBs will appear in any effluent or ambient sample if the analytical technology is or becomes in time sufficiently sensitive. There is no proper basis for purporting to disallow any PCB WLA, and there is no regulatory basis for restricting PCB discharge below a level necessary for achievement of numeric and narrative water quality standards.

We appreciate the commitment to fix this issue.

II. Storm Water and CSO

It is unclear from the draft Guidance what, if any, analyses might be requested from MS4 systems, other permitted stormwater outfalls or CSO outfalls. However, from our discussions we understand that it is not the Department's intent to generally request such data from POTW or MS4 system owners. In the absence of specific PCB use or disposal sites in an MS4 or CSO area, any data would reflect the general presence of PCBs in the environment, soils and impervious areas, and would not reflect a true source of PCBs. It is therefore not generally necessary or advantageous to obtain such data.

We support the carefully targeted sampling for "industrial" storm water permittees that the draft Guidance identifies. Although some POTW sites with separate storm water outfalls are subject to permitting, or have storm water conditions included in their facility VPDES permits, sampling of storm water outfalls would provide no useful information as long as there was no identifiable prior PCB use or disposal activity on the site.

Accordingly, these outfalls are not among those that would represent the large majority of PCB loads to an affected surface water, and they should not be considered for data generation during the TMDL development process.

III. Additional Technical Issues

Appendix C, section 4.4.1 makes a reference to duplicate samples. Although it is not clear what the intent of the statement is, we believe that any duplicate samples are a matter that should be determined by the owner as part of its Quality Assurance program. Any point about duplicate samples would be better placed in a footnote or in the background section of the protocol.

Appendix C, section 5.1.1 refers to the use of baked aluminum foil as a protector for sampling tubes. We do not recall this use in the Lower Potomac sampling protocol, and we ask that the Department reconsider whether it is appropriate.

The Appendix B (page 3 of 3) VPDES Permit Special Condition language is missing the waiver language that could allow an owner to delete the second wet weather sampling event if the first showed no meaningful difference from dry weather events or otherwise showed no value added to the data collection effort. That language should be added.

IV. Sampling and Analysis, Once Performed, Should be Allowed to Serve Multiple Purposes

The draft Guidance and some of the Appendices properly state that acceptable PCB data that were previously collected may be used to satisfy the TMDL development data requests. We also note the current Northern Virginia VPDES Permit TMDL implementation language which provides that for implementation purposes previous data may be used rather than generating additional, new data.

As long as the data are acceptable, we agree with these multiple uses, and we urge the Department to fully implement this multiple use of PCB data.



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FILE NO: 54233.000002

October 3, 2008

By ELECTRONIC MAIL

Dr. Arthur Butt
Office of Water Quality Programs
Virginia Department of Environmental Quality
629 East Main Street
Richmond, VA 23219

Re: Comments on Draft PCB PS Monitoring Guidance

Dear Dr. Butt:

I am writing to provide comments on the draft PCB PS Monitoring Guidance ("guidance") currently under review by the technical advisory committee ("TAC"). I have been participating on the TAC as one of the representatives of the Virginia Manufacturers Association ("VMA") and offer these comments on their behalf.

VMA appreciates the need to gather PCB monitoring data to aid in the development of TMDLs. However, given the ubiquitous nature of PCBs, the developmental nature of Method 1668A (at least for compliance purposes), and the extremely low detection limits associated with that method, VMA echoes the concerns raised by the Virginia Association of Municipal Wastewater Agencies ("VAMWA") about the quality and usage of the data generated using Method 1668A. VMA agrees with DEQ's stated goal of using the data solely for TMDL development purposes, and not for compliance or permitting purposes.

VMA offers the following comments on the technical aspects of the guidance:

1. No guidance is provided on determining Total PCBs from the EPA Method 1668A results. This ensures that data qualified as "J" "EMPC" and "U" is consistently applied by all entities conducting monitoring. For instance, should EMPC and J qualified results be included in a sum of values to determine Total PCBs? It is our understanding that this was the subject of considerable debate in the Delaware River PCB TMDL process, and should be addressed as part of this guidance.



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2. Given the ubiquitous nature of PCBs and the resulting potential for external PCB contamination during sample collection and analysis, the guidance should address the evaluation of method and field blank results to determine whether contamination has occurred. If this evaluation is not performed and uniformly applied during sample collection, the risk of false interpretation of the PCB content in the samples is high. An assessment of blank results should be incorporated into the guidance. Such assessment procedures were developed and incorporated into the monitoring protocols for the Delaware River PCB TMDL development process.

In addition to these substantive comments, VMA offers the following editorial comments. Although VMA would not normally provide comments that are editorial in nature, the concerns identified above necessitate precise and accurate wording in the guidance. Accordingly, VMA does offer the following editorial suggestions:

Page 1, last sentence of first full paragraph: please change to read "The selection of facilities to conduct monitoring will be determined by regional permitting and TMDL staff and shall be based upon the criteria identified herein."

Page 1, second paragraph: DEQ has asserted that the sole purpose of the PCB monitoring is to assist in developing TMDLs for PCB-impaired waters. The TAC has discussed the importance of distinguishing the TMDL development process from the ultimate TMDL implementation. Accordingly, it is inappropriate to state that the monitoring data will be used to calculate point source wasteload allocations, to control and/or mitigate PCB sources and to promote technological innovation. Instead, the guidance should simply state that the monitoring data will be used in the development of TMDLs.

Page 2, definition of Method 1668A, should be amended to read: "Method 1668A is an analytical method developed by the EPA Office of Water's Office of Science and Technology (OST) to determine chlorinated biphenyl congeners in environmental samples by isotope dilution and internal standard high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS)."

Page 4, First sentence under V.A should be amended to read "VPDES permitted facilities discharging into PCB impaired waters and subject to this guidance include:"

Page 4, third full paragraph under V.A. should be amended to read: "Specific types of industrial or commercial operations are more likely than others to have a discharge that includes PCBs. Therefore, industrial activities with primary or secondary Standard Industrial Classification ("SIC") codes identified in Table 1 will be subject to this monitoring guidance.



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Other industrial facilities may be identified for monitoring based on additional information or recommendations of DEQ technical staff."

Page 4, last paragraph, starting at line 6. The language in this sentence is not clear and should be amended to read: "An industrial facility shall be exempt from this guidance if it satisfies the requirements for exemption under the stormwater regulations at 9 VAC 25-151-70."

Page 5, at the tope of the page, the guidance states that a facility will receive a zero PCB allocation if it does not conduct monitoring. This statement again appears to cross the line from monitoring for purposes of TMDL development into TMDL implementation. This sentence should be deleted from the guidance.

Page 5, Table 1: Please change the caption to read "Industrial Facilities (by SIC Code) Subject to PCB Monitoring Guidance."

Page 5, first full paragraph under B. The sentence that begins at the end of the third line should read, "Dischargers subject to the monitoring guidance should begin monitoring within one year of receipt of notification from DEQ and conclude the monitoring within two years of receipt of the notification from DEQ." Otherwise it is unclear whether the two year timeframe applies from the date of notification or from the date monitoring begins.

Thank you again for the opportunity to provide these comments. If you have any questions about these comments, please feel free to contact me (804-788-8425).

Sincerely,

Andrea W. Wortzel

cc:

Mr. Thomas G. Botkins

Mr. Joseph J. Croce

Mr. John Petchul

Mr. Brett A. Vassey

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Monitoring of Point Sources Using Low-Level PCB Method 1668A for TMDL Development

I. Introduction

The purpose of this guidance is to establish procedures for implementing voluntary(Arthur – suggest deleting voluntary because its not really voluntary if DEQ can require) point source monitoring of polychlorinated biphenyls (PCBs) in support of Total Maximum Daily Loads (TMDLs) development. This monitoring may apply to these categories of point source discharges: 1) municipal (major and minor) and industrial wastewater facilities, and 2) industrial storm water discharges, whether operating under an individual or general storm water permit. Facilities will be notified by the DEQ regional office if low-level PCB monitoring is requested. The selection of facilities to conduct monitoring will be determined by regional permitting and TMDL staff and shall be based upon the likelihood that individual facilities may reasonably be expected to discharge PCBs.

PCB monitoring will entail sample collection and low-level analysis using the Environmental Protection Agency's (EPA) Method 1668, Revision A (1668A) to determine individual PCB congener concentrations. Implementation of this procedure will result in the collection of low-level data for source-specific PCB effluent concentrations to:

- Calculate point source waste load allocations (WLA) (<u>Arthur I assume you mean</u> facilitating the development of aggregated WLA for categories of point sources vice individual? The model would be the primary means for developing these aggregated WLA. How and when would an individual facilities data collected under this guidance be used to calculate a WLA allocation for that facility?) as part of PCB TMDL development,
- 2. Control and/or mitigate PCB sources, and
- 3. Promote technological innovation of PCB monitoring and low-level detection procedures.

While the low-level PCB Method 1668A has not yet been promulgated by EPA, the Agency recommends its use for data generated in support of TMDL development. Therefore, data generated using Method 1668A should not be used for compliance purposes until the method is promulgated.

This guidance was developed with assistance of a PCB Point Source Monitoring Technical Advisory Committee (TAC). The TAC consisted of representatives from both the regulated community and environmental groups throughout the state. The PCB point source monitoring approach being adopted is similar to those used in New York (Panero *et al.*, 2005) (http://www.nyas.org/programs/harbor.asp), Delaware and New Jersey (DRBC 1998) (http://www.state.nj.us/drbc/regs/pcb-new.pdf).

II. Background

In 2004, the Virginia Department of Health lowered the trigger value for fish consumption advisories for PCBs from 600 ppb to 50 ppb. The following year, the Virginia Department of Environmental Quality (DEQ) published the "PCB Strategy for the Commonwealth of Virginia" (www.deq.virginia.gov/fishtissue/pcbstrategy.html). This document establishes the regulatory

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framework and state initiatives to address PCB impaired waterbodies due primarily to high PCB levels in fish tissue.

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III. Authority

Development of a PCB TMDL requires consideration of the Virginia water quality criterion for Total PCBs (9 VAC 25-260-140) to protect the "fishable" designated use (9VAC 25-260-10). The current PCB compliance Method 608 (40 CFR Part 136) is incapable of meeting these regulatory requirements as the method detection level is well above the water quality criterion. In order to characterize PCB loadings for TMDL development, DEQ is implementing low-level PCB monitoring as recommended by EPA (Appendix A). The monitoring will be coordinated through the Virginia Pollutant Discharge Elimination System (VPDES) permit and TMDL programs.

IV. Definitions

The following definitions apply for the purpose of TMDL guidance:

"Composite Sample" is defined as a combination of individual samples of water or wastewater taken in proportion to flow or time which ensures that a representative sample is obtained. Composites most often represent samples collected over 24 hours.

"Congener" is defined as a chemical compound in the polychlorinated biphenyls (PCB) category and is a derivative or a compount in the same group. In this case, there are 209 congeners of PCBs.

"General permit" as defined by the Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation (9VAC25-31-10) means a VPDES permit authorizing a category of discharges under the Clean Water Act and the law within a geographical area.

"Guidance" as used by the VPDES Permit Regulation (9VAC25-31-90) to "implement technical and regulatory details of the VPDES permit program" means any document developed by a state agency or staff that provides information or guidance of general applicability to the staff or public to interpret or implement status or the agency's rules or regulations.

"Industrial storm water" as defined by the VPDES Permit Regulation (9VAC25-151-10) means storm water runoff associated with the definition of "storm water discharge associated with industrial activity."

"Manual composite" is defined as a "composite sample" which consists of individual grab samples taken during a time sequence and final compositing of the individual grabs occurring within the laboratory and not at the facility where the samples were collected.

"Method 1668A" as defined by EPA (1999) refers to a highly sensitive analytical method capable of detecting very small amounts of PCBs and the complete spectrum of the 209 PCB congeners. This analytical method has been recommended by USEPA for data generation related to TMDL development.

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"No exposure" as defined by the VPDES Permit Regulation (9VAC25-151) means all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff.

"PCB" and PCBs as defined in EPA 40 CFR 761 means any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance. They are a class of organic compounds with 1 to 10 chlorine atoms attached to biphenyl and a general chemical formula of $C_{12}H_{10}$ -xClx (where x = 1-10).

"pg/L" as defined by EPA (1999) refers to picograms per liter (pg/L) and corresponds to parts per quadrillion (ppq) (1.0 E-12).

"Process wastewater" as defined by VPDES Permit Regulation (<u>9VAC25-31-10</u>) means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

"Publicly owned treatment works" or "POTW" as defined by the VPDES Permit Regulation (9VAC25-31-10) means a treatment works as defined by §212 of the Clean Water Act, which is owned by a state or municipality (as defined by §502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW treatment plant. The term also means the municipality as defined in §502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

"SIC" means the Standard Industrial Classification Code or Industrial Grouping from the U.S. Office of Management and Budget Standard Industrial Classification Manual, 1987 Edition. It is used to describe the specific industrial activities occurring at a facility to determine whether or not the facility is required to be permitted under the regulations.

"Storm event" as used by the general permit monitoring instructions (9VAC25-151-70-A.2.b) refers to an event that is greater than 0.1 inch in magnitude (defined as a "measurable" event), providing the interval from the preceding measurable storm is at least 72 hours. In this guidance, high flow events or wet conditions are storm events. To be consistent with monitoring requirements, snow melt sample are not to be considered.

"Storm water" as defined by the VPDES Permit Regulation (<u>9VAC25-31-10</u>) means storm water runoff, snow melt runoff, and surface runoff and drainage.

"TMDL" means Total Maximum Daily Load and defined by EPA as a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. The TMDL programs and water quality standards are established in The Clean Water Act, section 303.

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"Virginia Pollutant Discharge Elimination System (VPDES) permit" as defined by the VPDES Permit Regulation (9VAC25-31) means a document issued by the board pursuant to this chapter authorizing, under prescribed conditions, the potential or actual discharge of pollutants from a point source to surface waters and the use or disposal of sewage sludge. Under the approved state program, a VPDES permit is equivalent to an NPDES permit.

V. Guidance

The objective of this guidance is to generate low-level PCB data for TMDL WLA development. Also, the data are needed to identify and quantify sources of PCBs. It is important to reduce uncertainty and minimize potential contamination of the low-level PCB data while minimizing costs. Monitoring and data analysis will be performed using EPA approved procedures that minimize data uncertainties for total PCBs on a congener basis. The following sections outline the major components of the guidance.

A. Facilities Identified for Voluntary Monitoring

VPDES permitted facilities discharging into PCB impaired waters should include:

- all major municipals (POTWs) (1.0 MGD design capacity and above, including combined sewer overflows or CSOs),
- (Arthur did not use "all" minor municipals because exemptions are allowed for minors but not majors?) minor municipals (less than 1.0 MGD),
- industrial wastewater facilities, and
- industrial storm water discharges under individual or general permits.

Once a PCB impaired segment appears on the TMDL development schedule, the regional TMDL coordinator will be responsible for facility notification of data needs. If data for TMDL source characterization are not available through this voluntary effort, DEQ may require the data by letter or through VPDES permit special conditions (Appendix B).

Specific types of industrial or commercial operations have been identified as probable sources of PCBs (Belton *et al.* 2005). Contamination could occur through inadvertent by-products generation, or from aging infrastructure within the facility (e.g., leaking PCB electrical equipment, paints, sealants, etc.). Therefore, industrial activities with primary or secondary Standard Industrial Classification (SIC) codes identified in Table 1 should be monitored. Other facilities may be identified for monitoring based on additional information or recommendations of DEQ technical staff.

Certain exceptions or exemptions should be considered for facilities discharging to PCB impaired waters. For minor municipal facilities, the permittee should provide adequate documentation that the facility is not a potential source of PCBs. This should be based on results of site inspection by DEQ staff and a certified report by the owner. Final determination will be made on a case-by-case basis with coordination between the regional TMDL and permit staff. An industrial facility shall be exempt from the requirements as defined in the regulations (9 VAC 25-151-70). This exemption applies if storm water discharge is to a POTW or through a combined sewer system, or if the facility meets the definition of "no exposure." In addition, a facility may collect from a representative outfall if two or more existing outfalls are similar. An

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industrial facility may ask for a waiver from monitoring if the owner can certify that PCBs were never present on the site. Under the TMDL, this facility would receive a zero PCB allocation. If the facility is later found to be a source, they will not be allowed to discharge any PCB load under their permit.

		Codo Nama Facility
Table 1.	Facilities identified	as most probable sources of PCBs by SIC code.

SIC Code	Code Name Facility
26 & 27	Paper and Allied Products
30	Rubber and Misc. Plastics
33	Primary Metal Industries
34	Fabricated Metal Products
37	Transportation Equipment
49	Electrical, Gas and Sanitary Services
5093	Scrap recycling
1221 & 1222	Bituminous Coal

B. Monitoring Frequency

Monitoring frequency of facilities described in Section A is outlined in Table 2. For load characterization, both base flow (dry) and storm or high flow event (wet) sampling are recommended as described in Appendix C unless stated otherwise. Applicable dischargers should begin monitoring within the first year of notification and complete monitoring within two years. Samples previously collected and analyzed, may be used in satisfying the total number of samples required provided monitoring and analysis are conducted in accordance with Sections C and D of this guidance.

Table 2. Type of facility and sample frequency recommended.

VPDES Facility								
Mun	icipals	Industrials						
Major ≥1 MGD	Minor < 1 MGD	Process wastewater only	Process wastewater with storm water	Storm water only				
2 wet + 2 dry	1 wet + 1 dry	2 samples (storm event sampling not required)	1 dry + 1 wet	2 wet				

C. Sample Collection and Analytical Requirements

The analytical approach to be used under this guidance is EPA Method 1668A capable of detecting low-level concentrations for all 209 PCB congeners. Individual congeners are summed to form total PCB. Based on the sensitivity of this high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS), it is necessary to include ultra-clean sample collection and handling techniques. Specific guidance for sample collection is provided in

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Appendix C. The application of these procedures will ensure consistency between sampling events and among participants collecting samples.

Some facilities have expressed an interest in monitoring their water supply intake in order to demonstrate that the WWTP is not an actual source of PCBs. Influent and effluent data from WWTPs in Washington State and New Jersey indicate that the plants effectively remove greater than 95% of the PCBs in the influent to the plant. Therefore, comparing PCBs concentrations from intake and effluent does not demonstrate that intake is the only source of PCBs. Any effort to make such a demonstration must include intake, WWTP influent and effluent analysis along with a comparison of the individual congeners in each. (Arthur – The sentences before here in this paragraph are confusing, at least to me anyway) Sample collection and analysis at all three locations should be consistent with this guidance and procedures with particular attention to this section and PCB Reporting Requirements (Section E) below.

Method 1668A is performance based which allows analytical laboratories to improve upon the method capabilities. Appendix D contains the specified laboratory requirements. Included are the congener-specific Estimated Method Detection Levels (EMDLs) and the Minimum Level (ML) or concentration(s) at which the congeners are to be reported. Analytical consistency along with the ability to meet quality control requirements is essential among participating laboratories.

D. Analytical Laboratories

While the agency cannot recommend any testing laboratory, a list of qualified laboratories using performance based EPA Method 1668A will be on file and posted on the DEQ web site. However, the laboratory must be capable of meeting the EMDLs and MLs specified in Appendix D (http://www.deq.state.va.us/tmdl/pcb.html). (Arthur - What about having the laboratory pass certain QA tests?)

E. PCB Reporting Requirements

Data should be delivered to DEQ in two electronic data formats. Format and files are described in Appendix E and are available for download from the DEQ TMDL website (http://www.deq.state.va.us/tmdl/pcb.html).

F. References

Belton, T, E Stevenson, L Lippincott, R England, B Ruppel, J Botts and G Cavallo. 2005. Trackdown of polychlorinated biphenyls (PCBs) in a municipal sewer system: Pilot study at the Camden County Municipal Utility Authority (CCMUA). Water Environment Federation, TMDL Special Conference.

Delaware River Basin Commission (DRBC). 1998. Study of the loadings of polychlorinated biphenyls from tributaries and point sources discharging to the tidal Delaware River. Estuary Toxics Management Program, DRBC West Trenton, New Jersey. June.

Environmental Protection Agency (EPA). 1999. Method 1668, Revision A: Chlorinated Biphenyl Congeners in Water, Soil, Sediment and Tissue by HRGC/HRMS, EPA-821-R-00-002, December 1999. (with corrections and changes through August 20, 2003)

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Panero, M, S Boehme and G Munoz. 2005. Pollution Prevention and Management Strategies for Polychlorinated Biphenyls in the New York/New Jersey Harbor. A Report from the Harbor Consortium of the New York Academy of Sciences, NYAS, February, 2005.

VI. Appendices

- A. NPDES Permitting Authorities have some discretion in specifying methods more sensitive than 40 CFR Part 136. Personal communication from Brian P. Trulear, NPDES Program Manager, EPA Region 3. June 8, 2007.
- B. Data Notification Needs
- C. Sample Collection Methods for Effluent and Storm Water
- D. Analytical Quality Control Requirements
- E. Reporting Requirements for Analytical (PCB) Data Generated Using EPA Method 1668A